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UNITED STATES DEPARTMENT OF COMMERCE
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/390,228	09/03/99	OTOBA	M 10873.274US1

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MERCHANT & GOULD
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MINNEAPOLIS MN 55402-0903

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EXAMINER

ANGEBRANDT, M

ART UNIT

PAPER NUMBER

1756

DATE MAILED:

12/22/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.
09/390,228

Applicant(s)
Otoba et al.

Examiner
Martin J. Angebrannt

Group Art Unit
1756



☒ Responsive to communication(s) filed on 10/23/2000 and 11/02/2000

☒ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire three month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) 1-31, 50-64, and 74 is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1-31, 50-64, and 74 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☐ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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1 The response provided by the applicant has been read and given careful consideration. Responses to the arguments offered by the applicant are presented after the first rejection to which they are directed. The terminal disclaimer is proper and obviates the rejection over the 5,914,214 patent. The rejection over copending Application No. 09/050762 is withdrawn as that application has been abandoned. The rejection based upon the magnetic recording media references alone are withdrawn based upon the applicants statements that these media are not bounded by the claims and the support of this in the disclosure on page 21, lines 1-9 which does not disclose the use of materials which are optomagnetic for the recording layer. A number of the rejections are withdrawn because they do not have the additives required by the claims, not due to the fact that they may include other materials. The open claim language used by the applicant does not exclude unrecited species being present.

2 Claims 1-31, 50-64 and 74 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 50, "C" is not a group, but is a member of group IVa.

The applicant has submitted a periodic table showing various notation for the groups. The applicant asserts that the claims refer to the nomenclature shown in the Japanese version submitted with the response. These groups correspond to 3-12 of the current IUPAC notation. The examiner agrees with this interpretation, which is supported by the specification on page 44 which lists elements of these groups, and binds the applicant to it. The issue of the "C" not being

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a group could be obviated by replacing "C" with --carbon-- to make it clear that this refers to the element and not a group in any version of the periodic table.

Also in claim 1, at line 9, please replace "Ya" with --Ta--. This is a typographical error.

In claim 53, please insert --layer-- after "containing" in line 3. This is a typographical/grammatical error.

2 The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

3 The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4 Claims 30 is rejected under 35 U.S.C. 102(b) as being fully anticipated by Yoshioka et al. '363.

Figure 3, shows a substrate, a 160 nm SiO₂-ZnS dielectric layer, GeTeSb nitride surface layer (20), an SbGeTe recording layer, a second 20 nm SiO₂-ZnS dielectric layer, a, Al reflective

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layer and a protective layer. This is provided on at least one of the recording layer surfaces. (7/8-34)

Claim 30 does not require the limitations argued by the applicant with respect to the barrier layer composition.

5 Claims 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshioka et al. '363, in view of Yoshioka et al. JP 04-052188.

Yoshioka et al. JP 04-052188 in the example on page 4 is a substrate, a dielectric layer, an SbGeTe recording layer, a GeN layer, a second dielectric layer and a reflective layer.

It would have been obvious to one skilled in the art to provide a GeN layer on both sides of the optical recording medium of Yoshioka et al. '363 based upon the showing by Yoshioka et al. JP 04-052188 that this layer is beneficial between the recording layer and the upper dielectric layer.

The response provided above is relied upon here without further comment as there were no further comments provided by the applicant.

6 Claims 1-31,50-64 and 74 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshioka et al. '363, in view of Yoshioka et al. JP 04-052188 and either of Yoshitomi et al. JP 63-171453, Kinou et al. JP 03-248338, JP 01-276453 or Shino et al. JP 05-274726.

Yoshitomi et al. JP 63-171453. in the examples described with respect to the table on page 3. Note the use of GeN, GeAlN and GeZrN in page 3. note that the examiner holds that the substrate is an adjacent layer. Zr is a IVa metal according to the periodic table used by the

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applicants in the specification and is recited in claims 1 and 31 along with Al and these claims are also open to the addition of other elements in the barrier layer due to the language used.

Kinou et al. JP 03-248338 in the examples described in the abstract. The use of GeSiZrN in the examples and in the abstract. Note that the examiner holds that the substrate is an adjacent layer. Zr and Si are recited in claims 1 and 31 and Zr is embraced by the groups of claim 50.

JP 01-276453 in the examples described in the abstract. The use of GeSiN in the examples and in the abstract. Note that the examiner holds that the substrate is an adjacent layer.

Shindo et al. JP 05-274726 in the examples described in the abstract. The use of GeSiNH in the examples on page 15 and in the abstract. Note that the examiner holds that the substrate is an adjacent layer.

In addition to the basis above, it would have been obvious to include additives, such as Al, Si, and Zr, in the GeN protective layers of the invention of Yoshioka et al. '363 as modified by Yoshioka et al. JP 04-052188, based upon the disclosure of equivalent function as protective layers within either of Yoshitomi et al. JP 63-171453, Kinou et al. JP 03-248338, JP 01-276453 or Shino et al. JP 05-274726 and particularly the strong showing of equivalence by Yoshitomi et al. JP 63-171453.

In the analysis of the Yoshioka et al. '363, the applicant ignores the nitride surface layer of the GeTeSb recording layer. This is considered to meet the barrier layer limitation of the claims. The Yoshioka et al. JP 04-052188 is applied to evidence that this would be desirable on the topside of the recording medium as well as below the recording layer as evidenced by Yoshioka et

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al. '363 therefore rendering it obvious to provide a GeN layer on both sides of the recording layer. The examiner notes that the Yoshitomi et al. JP 63-171453, Kinou et al. JP 03-248338, JP 01-276453 and Shino et al. JP 05-274726 are each analogous art as they concern laser recording media with metallic recording layers and therefore they are considered to be relevant to the issues of protection of the recording layer, thereby rendering the addition of Si, Al and/or Zr obvious to one skilled in the art.

7 **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8 Any inquiry concerning this communication or earlier communications from the examiner should be directed to Martin Angebrannt whose telephone number is (703) 308-4397.

I am normally available between 7:30 AM and 5:00 PM, Monday through Thursday and 7:30 AM and 4:00 PM on alternate Fridays.

If repeated attempts to reach me are unsuccessful, my supervisor may be reached at (703) 308-4552.

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Facsimile correspondence should be directed to (703) 305-3599.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0661.



Martin J. Angebranndt
Primary Examiner, Group 1750
December 21, 2000